

AMENDMENTS TO THE CLAIMS

Please cancel Claim 1 without prejudice or disclaimer and add the following new claims.

1. Canceled

2. (New) An audio image correction device comprising:

a first left high-pass filter in communication with a left input signal and configured to modify the left input signal as a function of frequency over a first frequency range within the left input signal to create a first left corrected response;

a second left high-pass filter in communication with the left input signal, the second left high-pass filter configured to modify the left input signal as a function of frequency over a second frequency range within the left input signal to create a second left corrected response; and

a first combiner in communication with at least the first left corrected response and the second left corrected response, the combiner configured to combine at least the first corrected response and the second left corrected response to create a left spatially corrected output;

a first right high-pass filter in communication with a right input signal, the first right high-pass filter configured to modify the right input signal as a function of frequency over a first frequency range within the right input signal to create a first right corrected response;

a second right high-pass filter in communication with the right input signal, the second right high-pass filter configured to modify the right input signal as a function of frequency over a second frequency range within the right input signal to create a second right corrected response; and

a second combiner in communication with at least the first right corrected response and the second right corrected response, the combiner configured to combine at least the first right corrected response and the second right corrected response to create a right spatially corrected output; and

wherein the left spatially corrected output and the right spatially corrected output are configured to relocate the perceived location of a an apparent sound image from the first location to a second apparent location when the left and right spatially corrected outputs are audibly reproduced through the speaker system and

perceived by the listener, and wherein the second apparent location is defined by an elevation with respect to the listener that is different from that of the first location.

3. (New) The device of Claim 2 further comprising a adder in communication with the left and right spatially corrected outputs wherein the adder combines at least the left spatially corrected output with the right spatially corrected output to indentify sum information in the left and right spatially corrected outputs.

4. (New) The device of Claim 3 further comprising a bass booster in communication with the sum information, wherein the bass booster boosts a base frequency range within the sum information to create base-corrected sum information.

5. (New) The device of Claim 4 further comprising a difference generator in communication with the left and right spatially corrected outputs wherein the difference generator identifies difference information within the left and right spatially corrected outputs and wherein the difference generator enhances the difference information by modifying at least one frequency range within the difference information to create enhanced difference information.

6. (New) The device of Claim 5 further comprising a left mixer that combines at least the base-corrected sum information, the left spatially corrected output, and the enhanced difference information to create an enhanced left output.

7. (New) The device of Claim 6 further comprising a right mixer that combines at least the base-corrected sum information, the right spatially corrected output, and the enhanced difference information to create an enhanced right output.

8. (New) The device of Claim 2 wherein the first transition band of the first left high-pass filter is between approximately 100 Hz and 1000 Hz.

9. (New) The device of Claim 2 wherein the second transition band of the second left high-pass filter is between approximately 1000 Hz and 10 kHz.

10. (New) The device of Claim 2 wherein the second left high-pass filter boosts the left input signal within the second frequency range

11. (New) The device of Claim 2 wherein the second left high-pass filter boosts the left input signal within the second frequency range and wherein the level of boost increases with a corresponding increase in frequency.

12. (New) The device of Claim 2 wherein the second left high-pass filter attenuates the left input signal within the second frequency range.

13. (New) The of Claim 2 wherein the first transition band of the first right high-pass filter is between approximately 100 Hz and 1000 Hz.

14. (New) The device of Claim 2 wherein the second transition band of the second right high-pass filter is between approximately 1000 Hz and 10 kHz.

15. (New) The device of Claim 2 wherein the second right high-pass filter boosts the right input signal within the second frequency range.

16. (New) The device of Claim 2 wherein the second right high-pass filter boosts the right input signal within the second frequency range and wherein the level of boost increases with a corresponding increase in frequency.

17. (New) The device of Claim 2 wherein the second right high-pass filter attenuates the right input signal within the second frequency range.

18. (New) A method of altering audio comprising:

filtering a left input signal with a first left high-pass filter as a function of frequency over a first frequency range within the left input signal to create a first left corrected response;

filtering the left input signal with a second left high-pass filter as a function of frequency over a second frequency range within the left input signal to create a second left corrected response;

combining at least the first left corrected response and the second left corrected response to create a left spatially corrected output;

filtering the right input signal with a first right high-pass filter as a function of frequency over a first frequency range within the right input signal to create a first right corrected response;

filtering the right input signal with a second right high-pass filter as a function of frequency over a second frequency range within the right input signal to create a second right corrected response; and

combining at least the first right corrected response and the second right corrected response to create a right spatially corrected output; wherein the left spatially corrected output and the right spatially corrected output are configured to relocate the perceived location of a an apparent sound image from a first location

to a second apparent location when the left and right spatially corrected outputs are audibly reproduced through the speaker system and perceived by the listener, the second apparent location defined by an elevation with respect to the listener different from that of the first location.

19. (New) The method of Claim 18 further comprising combining the left and right spatially corrected outputs to identify sum information in the left and right spatially corrected outputs.

20. (New) The method of Claim 19 further comprising boosting a base frequency range within the sum information to create base-corrected sum information.

21. (New) The method of Claim 20 further comprising identifying difference information within the left and right spatially corrected outputs and enhancing the difference information by modifying at least one frequency range within the difference information to create enhanced difference information.

22. (New) The method of Claim 21 further comprising mixing the base-corrected sum information, the left spatially corrected output, and the enhanced difference information to create an enhanced left output.

23. (New) The method of Claim 22 further comprising mixing the base-corrected sum information, the right spatially corrected output, and the enhanced difference information to create an enhanced right output.

24. (New) The method of Claim 18 wherein the first transition band of the first left high-pass filter is between approximately 100 Hz and 1000 Hz.

25. (New) The method of Claim 18 wherein the second transition band of the second left high-pass filter is between approximately 1000 Hz and 10 kHz.

26. (New) The method of Claim 18 wherein the second left high-pass filter boosts the left input signal within the second frequency range

27. (New) The method of Claim 18 wherein the second left high-pass filter boosts the left input signal within the second frequency range and wherein the level of boost increases with a corresponding increase in frequency.

28. (New) The method of Claim 18 wherein the second left high-pass filter attenuates the left input signal within the second frequency range.

29. (New) The method of Claim 18 wherein the first transition band of the first right high-pass filter is between approximately 100 Hz and 1000 Hz.

Appl. No. : **10/764,266**
Filed : **January 22, 2004**

30. (New) The method of Claim 18 wherein the second transition band of the second right high-pass filter is between approximately 1000 Hz and 10 kHz.

31. (New) The method of Claim 18 wherein the second right high-pass filter boosts the right input signal within the second frequency range.

32. (New) The method of Claim 18 wherein the second right high-pass filter boosts the right input signal within the second frequency range and wherein the level of boost increases with a corresponding increase in frequency.

33. (New) The method of Claim 18 wherein the second right high-pass filter attenuates the right input signal within the second frequency range.

34. (New) The method of Claim 18 further including switching between adding the first and second right corrected stereo signals and subtracting the first and second right corrected stereo signals from each other.